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ABSTRACT

To compare the performance of children in classes for the educable mentally handicapped (EMH) with their peers (age mates) in regular classes on relevant dimensions, to investigate the validity of class placements using multiple criteria, and to determine the relationship between class placement and demographic variables. 270 children in EMH classes and 279 in regular classes (aged 11 years) were compared. The Slosson Intelligence Test for Children and Adults, an adaptation of the Test of Social Inference, an adaptation of the Temple Informal Reading Inventory, and the Auditory Reception and Verbal Expression subtests from the 1968 Illinois Test of Psycholinguistic Abilities were given. The distributions were converted into T-scores and the children scoring above and below a T-score of 45 (equivalent in the research data to an IQ of 75) on each of the variables were identified. Applying Jastak's concept of multiple criteria led to the authors' suggestion that the diagnosis in 25% of the children in EMH classes may be erroneous in that they scored above the cutting point on at least four of the five criteria. Only 37% of those in the EMH classes failed either four or five of the five criteria. The authors note that the findings support efforts to maintain most children found in EMH classes in the regular classroom through the use of tutoring and resource rooms. (Author/RD)

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ERRATA

Page 2, line 30; delete: "also."

Page 6, line 18; for "understatement" read "understatement."

Page 8, line 24; for "beach" read "beach."

Page 9, line 30; delete: "(see Appendix A)."

Page 7, line 22; for "with" read "to."

Page 9, line 22; for "the Best" read "the best."

Page 10, line 33; for "Shore" read "Shore."

Page 11, line 27; for "Lowest" read "Lower."

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The above number of persons on all levels of the educational community to whom we are indebted precludes any individual mention. County personnel paved the way to superintendents. Superintendents channelled principals. Principals helped select pupils and gave us access to teachers. We obtained the cooperation of over 100 elementary school principals, 300 teachers, and 1400 parents.

Data collection would have been impossible without the assistance of former and current students in addition to the regular and part-time research staff. Our research assistants, Mrs. Kay Smith and Mr. John Stone, were of invaluable help throughout the duration of the study. Our research secretary, Mrs. Sue Orr, cheerfully bore with us all.

We are indebted to R.L. Dixon, H. Leland, J.A. Kirk, J.J. McGarthy, E.A. Doyle, and M. Johnson and their publishers for instruments used and allowed for data collection.

Finally, this study is dedicated to the children who contributed their time and effort to it. With good humor and patience they complied with what must have seemed at times, our peculiar requests.

M. Garrison
D. Hammill

August 1970

PROBLEM AND OBJECTIVES

The importance of using multiple criteria in establishing a diagnosis of mental retardation and as a means of assisting school placement of children has been emphasized in the literature for many years. However, no studies exist which determine the extent to which multiple criteria are in fact employed in school placement of mildly retarded (educable) children. It was our suspicion that multiple criteria were not being applied in the educable child and that in excess of considerable importance in determining how children are classified differ, if at all, from their peers found in the regular classrooms. The specific purposes of this study were:

1. to compare the performance of children in educable classrooms with their peers (age-mates) in regular classes on relevant dimensions;

2. to investigate the validity of class placements using multiple criteria; and

3. to determine the relationship between class placement and demographic variables.

Dunn and Dunn (1967), called for experimental descriptions of children leading to prescriptions for instruction rather than labeling, categorizing, or making a "procedural diagnosis of mild retardation." They pointed out that educable children are more like their nonretarded peers and that they blend into the labor force after leaving school. This contention is supported by studies of the incidence of mental retardation in varying ages in England (Clarke & Clarke, 1958), Baltimore (Lemkau, et al., 1942), and the state of New York (New York State Department of Mental Hygiene, 1958), which show a considerable falling off in the incidence of retardation after age 16. Because these children fall in school many of them probably belong to the ecological class of "subcultural" retardates as defined by George S. Stevenson years ago.

In the Baltimore survey utilizing multiple criteria, Lemkau (1942) sampled persons between the ages of ten and 54 requiring that their performance be in the lowest 2% of the population on either three or four factors. The factors used were: (1) psychometric average (the mean standard score of 11 social, social, academic, and perceptual-motor measures), (2) psychometric attitude, the highest score on the preceding measures, (3) index of schooling completed, and (4) index of occupational achievement. For practicality employed in, all four criteria were used; otherwise, the first three were used. If only the first criterion, psychometric average, was used, the lowest 2%, by definition, would be identified

on retarded. Nine of four criteria are agreed, only 1% accept on retarded; i.e., on the basis of all four criteria. Nine (1) of the original (1) would have been misidentified as retarded using psychometric average alone.

A current issue to which the educational community is addressing attention concerns the efficacy of special class placement for educable children. In the literature, both rhetoric and data have been brought to bear on this question. Dunsheen (1967) has asked, "Label or libel? What happens when we categorize children." As an alternative to special self-contained classes, Dunsie (1967) has recommended the use of resource rooms where the retardate can spend part of each day, "since it is believed that education is restricted by segregation." Many professionals in the field of special education would also to second this position (Bass, 1968; Dukes, 1970; McCarthy, 1968; Towne & Joiner, 1967). Johnson (1967) and Christopolis and Bate (1968) argued that ability grouping, i.e., segregated classes for retardates, promote equal opportunity and can be damaging to the personality development of "slow" children. According to Edmonds (1967), assignment to high school special classes may produce dis-encouragement, resentment, and acting out behavior; and being known as "special" among your peers is an added unhappy consequence of such placement. Carroll (1967) investigated self concept and achievement in bi randomly assigned to segregated and partially integrated groups; two results favored the integrated group on all counts. Dis-cussed by these and other findings, Dunn (1968) has called for the outright abolishment of special classes for the mildly and moderately retarded on the grounds that research does not support their efficacy.

Contrary results are reported, however, by Bonitke (1967) who evaluated 23 matched pairs of educable youngsters finding that the special class students had a more positive self concept but children in regular classes showed greater academic achievement. These findings were consistent with earlier reports which suggested special class placement favored personality and social adjustment while regular class placement favored academic achievement. In fact, Dunn (1968) numbered among his conclusions the statement that educable mentally retarded students may not be better off in school with normal children although such a practice has been uncritically accepted for 15 years. Pumigami and Shepard (1968), who reporting on the social integration of educable students into conventional classes emphasized the importance of individual pupil characteristics, special teacher's attitudes, administrative support, the number of children involved and type of class.

The point of interest here is that these studies uniformly have started with children already labelled "educable mentally retarded" and have completely overlooked the more fundamental question which is, "Who are these children?" The questions implicit in the Goyens and Goyens article and in Jacob's survey would certainly seem to suggest that better definition of groups is necessary before any

[illegible] evaluation of mental processes can be carried out. If there is, in reality, no correspondence or the IQ or academic performance to the evaluation of other criteria, there is would appear that a great deal of the literature on integration and segregation of education may be fairly meaningless. Even so called "educable" may be excluded from regular class but may be in other ways adapt. There is no way that educational requirements can specific areas of inadequacy which may not be handicapping in life, or contingent to special class may be unrelated to educational inadequacy but be concerned with motivational factors or classroom management. Therefore, the efficacy of special class placement cannot be evaluated accurately until the composition of these classes is known.

Knowledge of the characteristics of children who attend the educable classes is of tremendous instructional importance. The curriculum for educable children is aimed basically at job oriented vocational education, centering on basic academic skills such as reading and arithmetic is designed to carry the adult vocational through the fifth grade-level only. It is also recognized that most retarded persons will not even reach this level. Heavy emphasis is placed, therefore, upon those aspects of instruction which enable job success and social adjustment. Subsequently, the goal of instruction is to prepare the pupil for a productive life in spite of his low level of intellectual ability. The goal is not to remediate basic skills to the point where the child can function in a regular class or academic pat (provision is made, of course, for the transfer to regular class of those pupils who were originally misplaced and who for some reason "discovered" in special class).

The basic assumption of identification and placement of educable is that multiple criteria were used in making the diagnosis, i.e., that all children so labelled evidence general retardation in all areas of mental competency, including educational, intellectual, social and language (see Jastak, 1963, pp 63 ff.). This assumption underlies both the available curricula and the teacher preparation programs in mental retardation. The suspicion remains that an undetermined number of children who are placed in educable classes suffer from heterogeneous problems, many of which are not mental retardation as defined above. These may include:

1. Unidentified early preacademic experiences,

2. emotional-social inadequacy,

3. minimal brain disturbances affecting perception, conceptualization, speech, or other fundamental processes.

Children whose primary problems are listed above may not be considered retarded, though retardation may from time to time exhibit such difficulties. The educational intervention required for these

children is essentially remedial. Retarded children may score the same on IQ tests as those who lack sufficient experience. Therefore, if the IQ is used as the single criterion for identification, gross errors in placement are possible. It is feared that over the years, educable classes have been filled with children from low socio-economic backgrounds which did not provide the kinds of experiences necessary to do well on tests or in school. Such children would need intervention programs emphasizing enrichment and verbal stimulation rather than programs designed specifically for mental deficiency.

As the characteristics of children presently in educable classes are unknown, one does not know the percentage of such children who (1) exhibit acceptable social performance but fail in school and have low IQs, (2) who have low IQs but social and academic behavior commensurate with their peers, (3) who are subaverage on all criteria, or even (4) who are in the average range on all criteria. As these critical dimensions of the special class are undetermined at the present time, the question as to the efficacy of such classes is unanswerable. If these parameters were known, the question could not be resolved by additional special class -- regular class comparisons but by determining the characteristics of those children for whom the special class placement is profitable.

PROCEDURES

Selection of the Sample

In the five county greater Philadelphia area, during 1969-70, there were approximately 630 educable elementary classes enrolling over 8000 children. The individuals to be studied were the 11-year old youngsters contained in the EMR classes. For each of these children, a child of the same age attending the same school and of the same socio-economic background was selected. This chronological age group was chosen because it appeared to represent the point at which the mental retardation prevalence curves begin to peak. The potential subjects were dispersed among 38 independent school districts and 180 different schools.

Insert Table 1

The superintendents of all the districts were contacted, the study and its implications were explained to them and their cooperation was requested. Of these, 26 expressed a willingness to participate. The superintendents then notified the principals of the schools housing EMR classes that the project had his approval and that participation was optional. Only five principals chose not to comply with our request to collect data in their schools.

TABLE 1

CLASSIFIED EDUCABLE CLASSES & STUDENTS*

County	Number of EMR Classes*	Number of Students*	Estimated Number of 11 year olds	Number of EMR In	Ages of Pop. in sample
Bucks	13	197	111	99	.89
Chester	12	113	96	68	.7%
Delaware	13	153	104	32	.31
Montgomery	20	203	141	41	.29
Philadelphia	290	2150	136	137	.29
Total	437	2818	918	378	.29

* As reported by the Special Education Directors

In all counties other than Philadelphia, the principal compiled a list of all 11 year old EMR children in his school. In Philadelphia, the research staff selected possible subjects from the county's state report. Philadelphia is subdivided into eight school districts. After the number of students in EMR classes had been determined, a proportional sample was drawn from each district.

The principal was responsible for the selection of the youngsters in regular school classes. It was suggested that he ask one or two teachers of regular classes if some of their pupils would participate in the study. If the teachers agreed, they were to choose the first 11 year old child whose name appeared in the roll book, then the second, then the third. The importance of selecting these control children at random was stressed. Principals were cautioned that teachers might want to recommend a child but as some teachers would select their best or worst child for special testing, it was better for him to choose the child. This procedure would ensure the selection of a representative sample.

These procedures permitted the identification of 938 pupils in EMR placements in the five county greater Philadelphia area. Our intention was to study as many children from as many different counties, districts, and schools as time and parental permission allowed. Of these 378 were studied. The EMR sample therefore represented 39 percent of the population. We were able to study 319 pupils from regular classes. Exact numerical matches were not possible in some areas where EMR classes were grouped in designated schools. In all, data are reported on a total of 697 children. The characteristics of the EMR and regular pupils are shown in Table 2 by county, socio-economic rating, race and sex.

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Insert Table 2

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Selection of Dependent Variables

Since we hoped to parallel Jastak's use of multiple criteria without necessarily requiring a four-hour test battery for each child, the following quantitative measures were chosen and required no more than one hour for administration:

1. The Slosson Intelligence Test for Children and Adults (SIT)
2. An adaptation of the Test of Social Inference (TSI)
3. An adaptation of the Informal Reading Inventory (IRI)
4. The Auditory Reception (AR) and Verbal Expression (VE) subtests from the 1968 Illinois Test of Psycholinguistic Abilities

In theory an individual must evidence severe deficits in all cognitive, i.e. intellectual, abilities before the term "mentally retarded" can be applied to him with confidence. For example, a pupil who reads with comprehension at his GE level cannot be considered mentally retarded no matter how low his IQ may be. An eleven year old non-reader with a low IQ who is accepted socially by his peers or who even assumes leadership roles when on the playground is unlikely to be mentally retarded. Neither may a language adequate youngster be labeled mentally retarded regardless of his apparent educational-social deficiencies. In short, the individual who can demonstrate his competence in several different intellectual tasks is most assuredly not retarded, while those demonstrating inadequacy in all areas which might be probed are most likely retarded.

The Slosson Intelligence Test has been shown to provide a quick and accurate measure of intelligence and is suitable for use with this population. Test-retest reliability was reported by Slosson (1963) to be .97 within a two-month period using 139 subjects who ranged in age from four to 50. Comparisons with the Stanford-Binet Intelligence Scale yielded near identical means and standard deviations as well as validity coefficients of better than .90 across all age levels above four years. The usefulness of this measure when administered to children with low mental ability has been demonstrated by Bennell (1968), DeLapa (1968), and Peterson (1967).

The Test of Social Inference was developed as a measure of social comprehension in conjunction with the development of a social training program by Edmonson, Leach, and Leland (1967) for use with educable retardates. The child is asked to respond verbally to 36 pictured social situations with score credit being given for each reasonable inference pertaining to the central portions of the pictured activity. Higher TSI scores have been shown to be associated with more adequate social behavior including peer acceptance, attentiveness and calmness as rated by teachers. Scores of commercially retarded children exceed those of retardates of the same age and those of institutionalized retardates. For this study only eight of the original series of pictures were used. These were selected on an intuitive basis as being likely to elicit responses. Two photos of a teacher and a principal with two boys were added to increase the attractiveness of the series to our age group (see Appendix A). The use of this scale is of particular interest because of the existence of the experimental curriculum associated with it.

The Temple Reading Clinic is in the process of standardizing a new form of their Informal Reading Inventory. As time and expense were factors and as the results were not to be used diagnostically, it was decided to utilize an adapted form of the Informal Reading Inventory. In our adaptation, the child silently reads a series of paragraphs which are in order of increasing difficulty. After reading each paragraph, the subject is asked questions about what he has read. The paragraphs and their associated questions are grouped according to reading grade level, e.g., preprimer, primer, first, etc.

TABLE 2

CHARACTERISTICS OF THE SAMPLE

County and School Placement

	Bucks		Chester		Delaware		Montgomery		Philadelphia	
	Bet	Dev	Bet	Dev	Bet	Dev	Bet	Dev	Bet	Dev
Number of Subjects	99	156	40	70	32	23	41	79	157	126
Sex:										
Male	43	69	24	36	19	11	20	36	100	73
Female	20	37	13	19	13	12	11	13	57	54
Racial Composition of Neighborhood:										
Mostly Negro	0	0	3	3	0	0	0	0	75	57
Mostly White	31	24	43	29	10	0	12	10	39	24
All White	70	82	3	3	22	13	29	29	47	23
Socio-Economic Level of Neighborhood:										
Low	0	0	3	3	0	0	0	0	24	43
Middle	67	133	46	32	17	13	17	13	83	72
High	33	3	0	0	15	0	24	16	20	9

the child is presented paragraphs until he reaches a point where he misses all questions at that level (the ceiling); then the easier paragraphs are presented until he answers all the questions correctly at a level (the basal).

Only questions which could be answered directed from the content of the paragraphs were used. Therefore, several inferential questions were excluded. Also questions which could be answered with a simple "yes" or "no" were deleted because their retention introjected guessing error and made it more difficult to reach a basal or ceiling which extended the time required for administration of the device. The total number of correct questions answered was used in the analyses. We did not endeavor to relate the total score with a reading grade level.

The two subtests from the ITPA (Kirk, McCarthy, & Kirk, 1968) are reported to estimate language adequacy by providing information regarding the language of understanding and of use. McCarthy and Olson (1964) have described Auditory Decoding (Auditory Reception in the 1968 test edition) as "the ability to comprehend the spoken word" and Vocal Encoding (i.e., Vocal Expression) as "the ability to express one's ideas in spoken words" (p. 1). The internal consistency coefficients reported by Paraskevopoulos and Kirk (1969) for AR are acceptable (.90 for the oldest sample of 8s and .93 for a sample of EMRs) as are the coefficients associated with VE (.86 for the oldest sample and .84 for the EMR Ss).

We thought it prudent to determine the reliability of these measures on youngsters in our sample. This was especially the case with AR and VE because we used the test with children who were not included in the ITPA standardization sample (notably Negroes and children with low IQs and/or CAs above 11-0). Since we had adapted the IRI and TSI, it was of no less importance to demonstrate that the reliabilities of these measures were acceptable. A random sample of 50 cases was drawn from the data pool. As the AR and IRI items are scored "pass" or "fail" the Kuder-Richardson Formula 20 was applied. The item-test correlation procedure described by Guilford (1965) was used to calculate the internal consistency coefficients of the VE and the split-half procedure was used with the TSI. Because of the subjective nature of the scoring of the latter two instruments, interrater reliability was also determined among the two authors and two members of the research staff. For the SIT, the reliabilities are those reported by Hammill (1969) based on a large sample of Philadelphia area children. Results of these analyses pertaining to reliability coefficients and error variance are presented in Table 3.

* * * * * * * * *

Insert Table 3

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Since the selected variables were all measures of different mental abilities, it was expected that the relationship among them would be

positive and significant. The correlations, however, could not be of such a magnitude as to suggest that one measure could be substituted for another. Our intention was to use tests of different cognitive abilities which would be related to measures of other cognitive abilities but which would each contribute a unique quality to the study. In a similar situation, Cooley, Barrow, and Lohnes (1969) reported correlations between ITBS (Total), Metropolitan Achievement Test (Total) and the Stanford-Binet IQ ranging from +.39 to +.76 with the highest being between the Stanford-Binet and the ITBS. These correlations were based on data obtained from the lower 25 percent of 200 first grade children examined under an IRD grant. Cooley, Barrow and Lohnes point out that the correlation coefficients "are too low to enable one to predict membership or rank in the various samples." Intercorrelations among our variables are presented in Table 6.

* * * * * * * * *

Insert Table 6

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Determination of Neighborhood Socio-Economic Status

It was not possible to obtain sufficient information from parents to determine each subject's socio-economic status. Several school administrators were understandably reluctant to permit the research staff to interview parents or to send them questionnaires for the purpose of collecting personal data regarding education, income, etc. Also, because of the size of the sample, interviews with parents were economically out of the question.

As an alternative to obtaining individual socio-economic ratings, the socio-economic characteristics of the school neighborhood were determined by consulting information compiled by the Bureau of the Census. Like individuals, each school is geographically situated in a particular census district or "tract." These tracts are rather small and contain no more than 10 or 15 thousand persons. The demographic characteristics of each tract were acquired from the document titled "U.S. Censuses of Population and Housing: 1960, Final Report PHC (1) - 138, Census Tracts, Philadelphia, Pa. - N. J., Standard Metropolitan Statistical Area."

The socio-economic standing of each tract, i.e. school neighborhood, was determined in the following manner. Four variables were selected to serve as relevant measures of social class -- Median Family Income, Median School Years Completed, Percent of Civil Labor Force Employed, and Percent of Housing Units Rated in Sound Condition. The data for each variable were converted into standard scores which resulted in four scores for each tract. These were then summed and divided by four. This mean standard was used as a gross estimate of the socio-economic status of the school neighborhood. This value, therefore, is a composite of the educational, economic, and residential characteristics of the tract. The socio-economic characteristics of each standard value are presented in Table 7.

TABLE 3

RELIABILITIES OF MEASURES
WHEN USED WITH SAMPLES OF
URBAN NEIGHBORHOODS

Test	Type of Reliability	Error Variance	N	r
RCT	Split-Half	Content-Sampling	144	.93
RCT	Test-Retest	Time Sampling	47	.97
AS	Kuder-Richardson	Content Sampling & Content Heterogeneity	30	.93
VS	Item-Test	Content Sampling	30	.85
VS	Scores	Interviewer Differences	30	.96
IRI	Kuder-Richardson	Content Sampling & Content Heterogeneity	30	.88
TRI	Split-Half	Content Sampling	30	.80
TRI	Scores	Interviewer Differences	30	.80-.87

TABLE 4

INTERCORRELATIONS AMONG VARIABLES
(N = 697)

	SQ	AB	VE	VSI	R
SQ	1.00	.64	.45	.34	.79
AB		1.00	.41	.44	.37
VE			1.00	.34	.39
VSI				1.00	.30
R					1.00

Insert Table 5

Selection of Neighborhood Social Composition

The racial composition of the school neighborhoods was estimated by use of the U.S. census information. The percent of nonwhite residents in the relevant tracts was determined. These were placed in rank order and divided into three roughly equal groups. Group 1 included districts which ranged from 100 to 38 percent nonwhite, Group 2 ranged from one to 09 percent nonwhite, and Group 3 was comprised of essentially all white neighborhoods.

[illegible]

Comparison of Regular and EMR Pupils

It is to be hoped that groups of subjects drawn from EMR and regular classes would be distinguishable on measures of intellectual functioning and, indeed, this proved to be the case. As may be seen in Table 6, the differences between the groups on IQ and Reading are marked while lesser differences are seen on Auditory Reception, Verbal Expression, and the Test of Social Inference. In all five instances the differences was in favor of the children in regular classes and was statistically significant at the .01 level of confidence.

Insert Table 6

As described previously in the Selection of Dependent Variables section, the Test of Social Inference and the Reading Test are variants of instruments developed elsewhere. Gleason (personal communication) has expressed concern about our use of only eight of the original series of 21 pictures and the fact that we have "non-standard items intermingled with scores from some standard items." This is a quite proper objection which caused us to look closely at the TSI scores in a random sample of 100 cases drawn from our total data pool. In this sample as well as in the total data the children in regular classes significantly outscore those in EMR classes. When comparisons are made between mean scores for each picture, the regular class children significantly outscore the EMR class children on eight of the pictures. The order of difficulty for the two groups is the same with only minor exceptions. Finally, not wanting to work that neither group reached the ceiling. The reliability of the adapted TSI was discussed elsewhere (see Table 3).

Insert Table 7

It may be the case that we have diverged too far from the dimensions and tailored material and wording for our "ideal" series to be called an abbreviated Test of Social Inference. While we cannot be certain, the findings cited above together with the positive but modest correlation with the Dimension II (Table 4) led us to feel that our venture has served the purpose which was to tap a dimension of reality perception.

Similar questions may be raised about our use of the Informal Reading Inventory. This device is designed to enable the teacher to assign at three reading levels: independent, instructional, and frustration. By reducing the number of questions and by excluding those which appeared to be inferential (rather than straight reading comprehension) or which called for a simple yes-no answer (to minimize the effects of guessing), it is conceivable that the nature of the inventory has been radically altered. As used, a mean score of 10 and a standard deviation of almost two was found for the children attending regular class. This would place their average reading level at about the fifth grade with two thirds of the pupils in the regular classes falling between the third and seventh grade reading levels which seems fairly reasonable. The EMR mean of seven, places them at the primer level with a standard deviation ranging from below pre-primer to approximately the second grade level. It is notable that 48 children failed to achieve a score on this test and they were all attending the EMR class. This, too, seems to be a reasonable result. Finally, there is an orderly sequence in the successes and failures. Children failing most of the questions at the third grade level do not appreciably pass all the fourth and the fifth grade level.

In summary, children placed in EMR and regular classes matched for age, sex, and socioeconomic status differ significantly on groups on the measures utilized in this study. The differences are greatest on Reading and II, substantial on Auditory Perception and the Test of Social Inference and less marked on Verbal Expression. All differences, however, are statistically significant at the .01 level of confidence.

These differences are graphically presented in Figures 1-5. In these figures, the means and plus one and minus one standard deviations for each dependent variable are designated for the EMR and regular class pupils. The reader will also note that the 64 have been classified according to socioeconomic group. The area between -1.00 SD for the regular distributions and +1.00 SD for the EMR distributions can be considered as overlap and is indicated by shading in the figures. The greater the shaded area, the greater the similarity between groups.

Insert Figures 1-5

TABLE 9

CHARACTERISTICS OF SOCIO-ECONOMIC STRATUM VALUES

Stratum	Rate Effec. (in pre.)	Rate Annual Family Income	% Unemployed	% Adequate Housing
9	12.7 - 13.0	$12,100 -	0.00 -	100
8	12.2 - 12.5	$ 7,800 - 12,300	0.50 - 0.90	99
7	11.8 - 12.1	$ 7,0000 - 7,700	1.00 - 1.50	97 - 98
6	10.9 - 11.7	$ 6,400 - 6,9000	1.60 - 2.90	93 - 96
5	9.2 - 10.8	$ 5,700 - 6,300	3.60 - 7.00	88 - 92
4	8.8 - 9.1	$ 4,900 - 5,6000	7.10 - 8.40	81 - 87
3	8.4 - 8.7	$ 3,900 - 4,8000	9.20 -12.20	63 - 79
2	8.1 - 8.3	$ 3,400 - 3,8000	13.10 -14.80	60 - 64
1	7.9 - 8.0	$ 2,700 - 3,300	15.80 -20.60	31 - 39

TABLE 6

[illegible] AND REGULAR CLASS
[illegible] ON FIVE CRITERION VARIABLES

Class Placement

	Regular (N=310)		SMR (N=378)		
	Mean	S.D.	Mean	S.D.	t
DQ	104.71	10.06	91.77	10.94	28.62 **
AE	40.04	7.29	31.28	8.11	15.03 **
VE	25.23	6.73	20.77	6.25	9.05 **
TOI	19.89	3.77	16.55	3.03	12.81 **
S	28.04	9.86	7.77	7.32	30.39 **

** p< .01

TABLE 7

ANALYSIS OF TAT CHARACTERISTICS

Picture	Regular Class (N=34) Mean	S.D.	ESR Class (N=44) Mean	S.D.
I	2.34	.86	2.30	.78
II	2.29	.83	1.72	.78
III	2.37	.78	1.76	.76
IV	2.22	.63	1.96	.39
V	1.74	.48	1.50	.62
VI	2.11	.63	1.61	.77
VII	1.41	.63	1.29	.50
VIII	1.94	.83	1.50	.66
IX	1.78	.74	1.61	.67
X	1.35	.48	1.00	.21

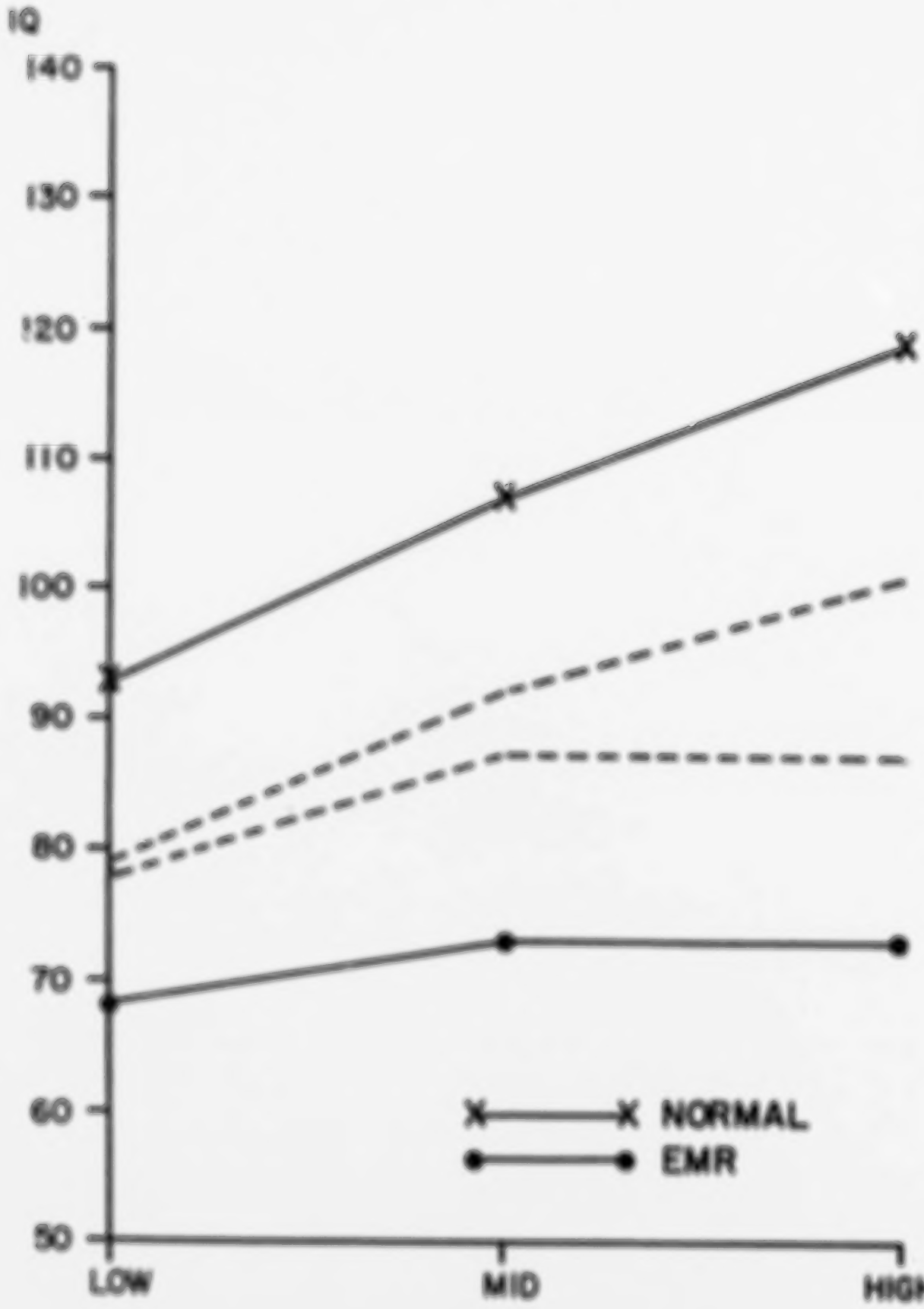

FIGURE I MEANS, STANDARD DEVIATIONS AND OVERLAP FOR EMR AND NORMAL CLASS PLACEMENT BY SOCIO-ECONOMIC STATUS FOR IQ

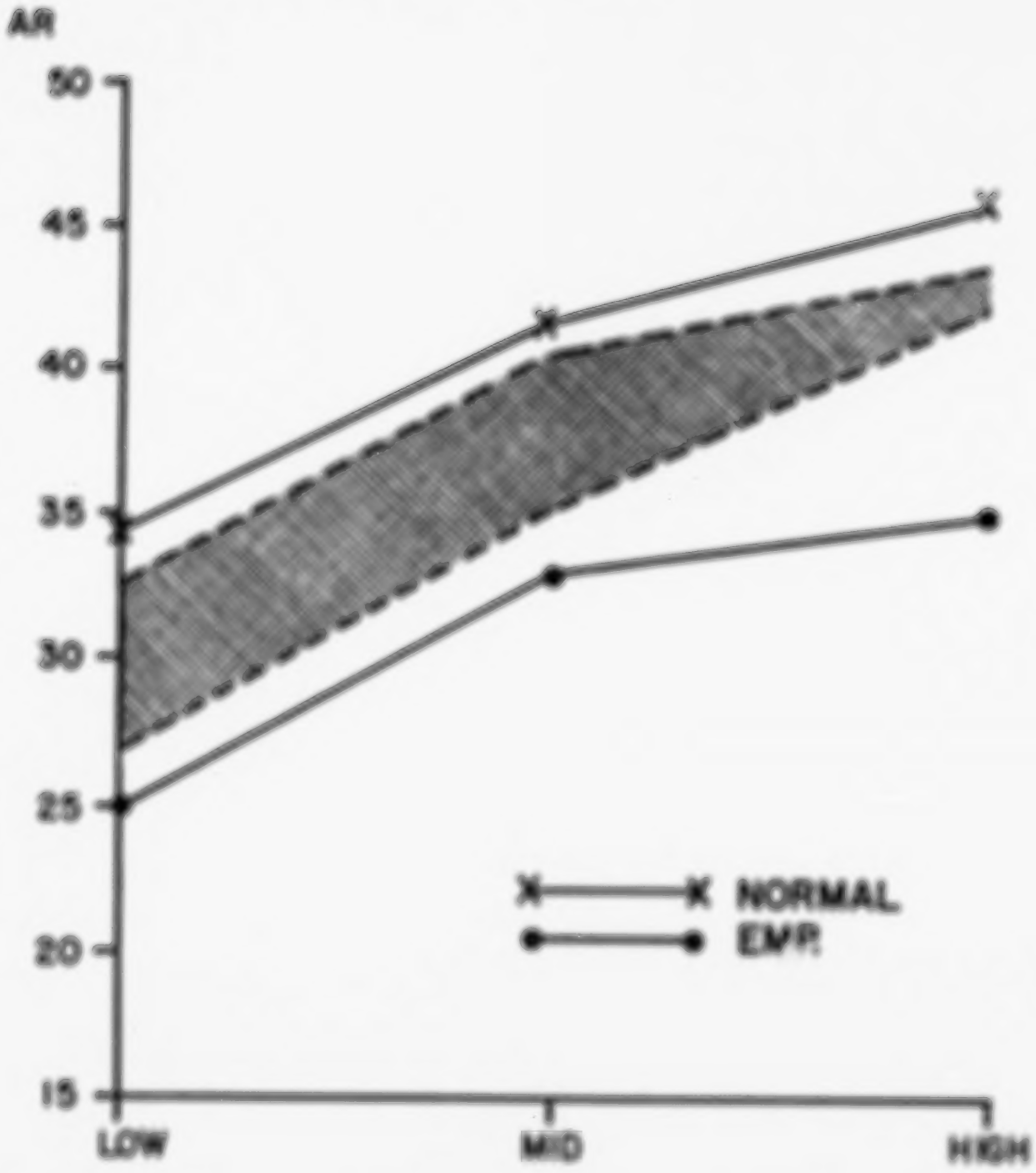

FIGURE 2 MEANS, STANDARD DEVIATIONS AND OVERLAP FOR EMR AND NORMAL CLASS PLACEMENT BY SOCIO-ECONOMIC STATUS FOR AUDITORY RECEPTION

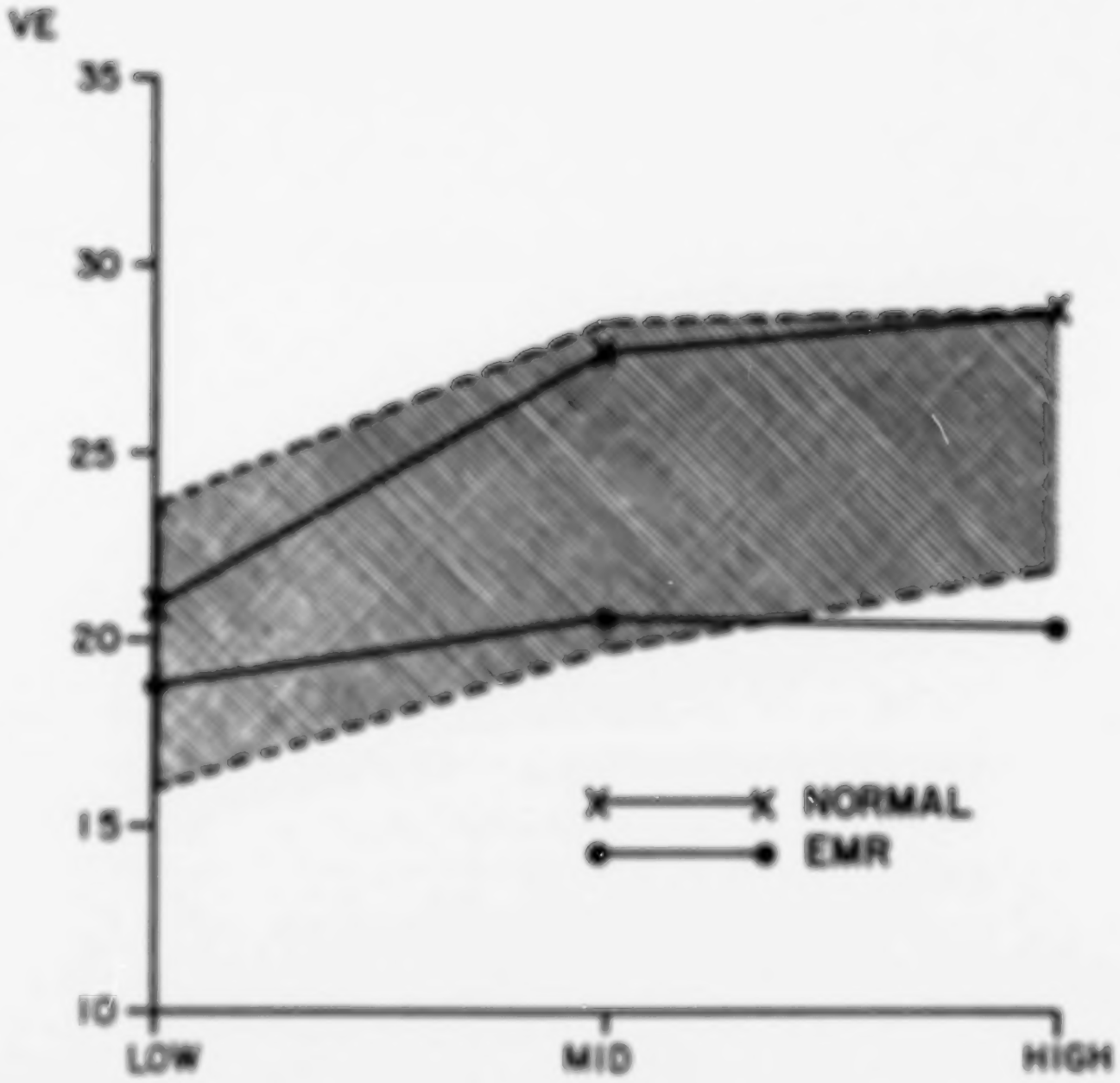

FIGURE 3 MEANS, STANDARD DEVIATIONS AND OVERLAP FOR EMR AND NORMAL CLASS PLACEMENT BY SOCIO-ECONOMIC STATUS FOR VERBAL EXPRESSION

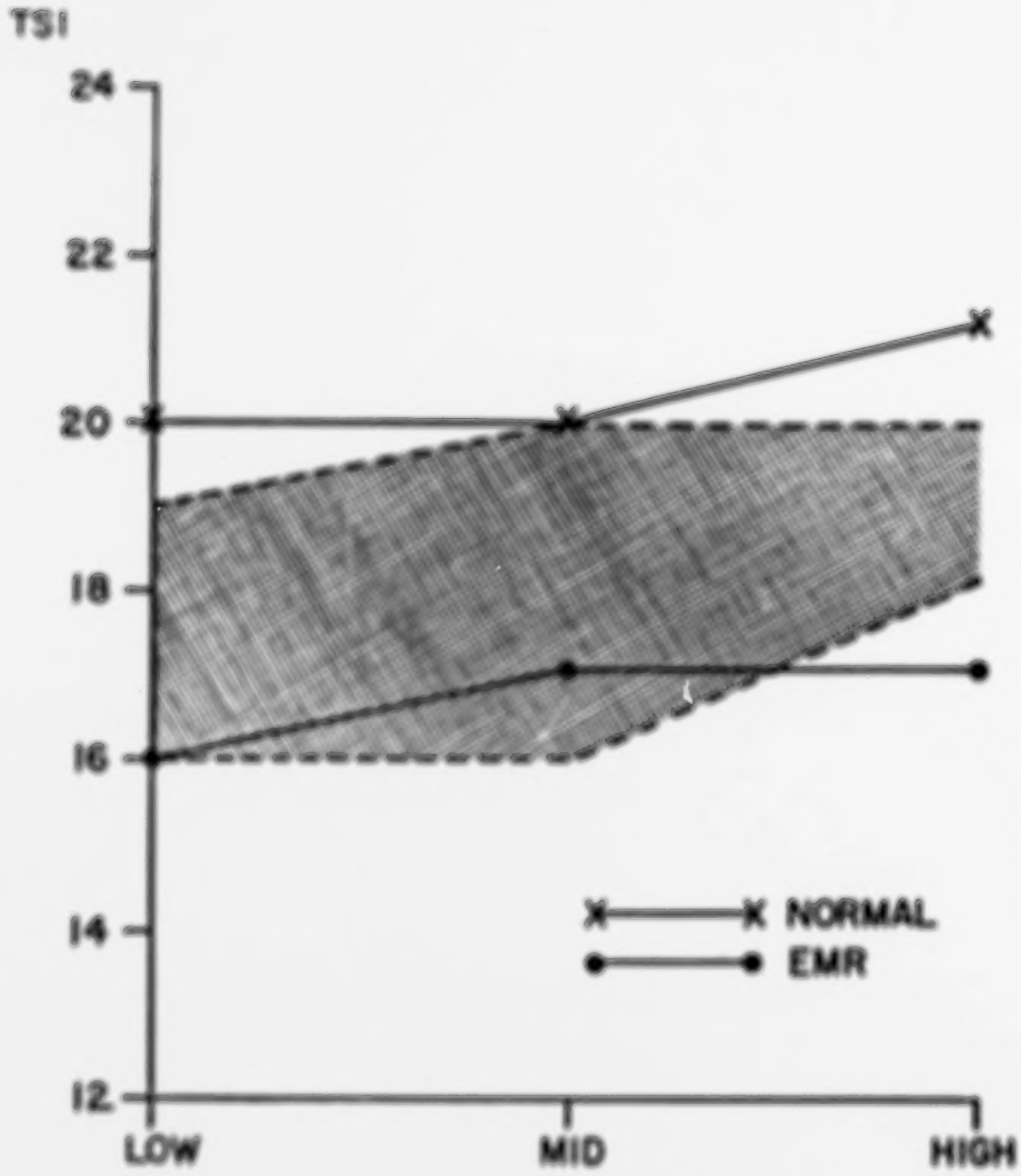

FIGURE 4 MEANS, STANDARD DEVIATIONS AND OVERLAP FOR EMR AND NORMAL CLASS PLACEMENT BY SOCIO-ECONOMIC STATUS FOR TEST OF SOCIAL INFERENCE

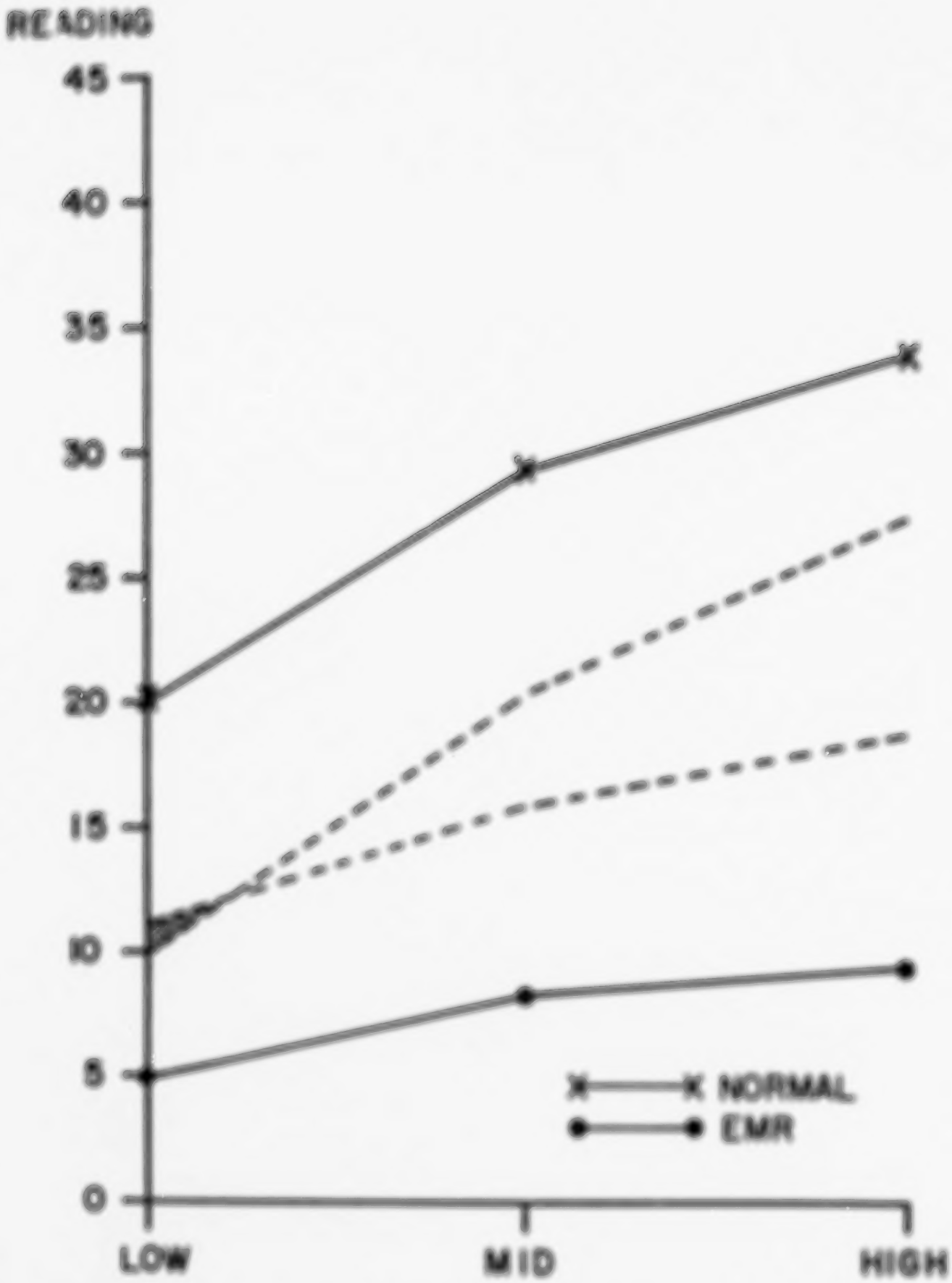

FIGURE 5 MEANS, STANDARD DEVIATIONS AND OVERLAP FOR EMR AND NORMAL CLASS PLACEMENT BY SOCIO-ECONOMIC STATUS IN READING

Inspection of the figures indicates the EMR and regular pupils can be delimited most clearly on the basis of IQ and Reading; a considerable amount of overlap exists on the remaining three variables, and is most apparent with regards to WI and TSI where group means tend to appear within the shaded areas. The overlap does not seem to be related to socioeconomic level; and, as expected, pupils of higher socioeconomic level regardless of school placement, tend to do better on all variables than pupils of lower class backgrounds. On Reading and IQ, the discrepancy between school groups widens as socioeconomic classification increases. On the other variables the degree of overlap between groups is present across all social classifications.

Application of Multiple Criteria

In this study, five cognitive abilities were selected to serve as criteria for identifying mentally retarded children. These were IQ, reading comprehension, the ability to make social inferences, and receptive and expressive language skill. In order that comparisons might be made across these different measures, the distributions for the whole sample, i.e. retarded and non-retarded Ss, were converted into T scores. Combining the two groups for this purpose had the effect of reducing the mean IQ and Reading score and increasing the standard deviation particularly in Reading.

* * * * * * * * *

Insert Table 8

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Except for Reading, the distributions remained relatively symmetrical. The number of non-readers in the EMR group produced a marked skewing at the lowest end of the scale as might have been expected on the basis of the group means. Since we were not dealing with a random sample from a normal population but with a preselection of children over half of whom are designated as EMR, the decision was made to utilize the T score of 43 (Equivalent in our data to an IQ of 75) as the cutting point for the other variables. The percentage of children scoring above and below this point by their school class placement for each variable is shown in Figure 6.

* * * * * * * * * *

Insert Figure 6

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Forty-four percent of the pupils currently assigned to EMR classes have measured IQs greater than 75 (T-score 43). While these "retarded" children ranged in IQ from 38 to 121, the vast majority of them who "passed" the IQ criterion were of "borderline" intelligence. In comparison, only two percent of the regular class pupils were found to have IQs 75 or lower. In Reading comprehension, 35 percent of children in EMR placement passed the criterion (T-score 43, i.e. reads at

approximately second grade level). It was found that 7 percent of children presently in regular classes could not read at this level. Six other measures, over 30 percent of the retardates actually passed the criterion, i.e. scored higher than 17 points on TMI, age equivalent of 7-6 on Auditory Reception, and age equivalent of 5-10 on Verbal Expression.

Children falling below a T-score of 45 on four or five of the five variables seem clearly to require special placement. Children falling above the cutting point on four or five of the five would not seem to belong in a class for the educable mentally retarded. As may be seen in Table 9, 96 pupils currently classified as "mentally retarded" would appear to be misidentified. Conversely, only one child who failed four out of five measures and no children failing five out of five are to be found in the regular classroom. The diagnosis for 23 percent of the youngsters found in EMR classes may be considered erroneous. An additional 43 percent passed two or three of the five variables; thus a total of better than two-thirds of the placements may be questioned.

o o o o o o o o o

Insert Table 9

o o o o o o o o o

Class Placement and Demographic Variables

Thus far the characteristics of children placed in EMR classes have been described and compared with those of their age mates in regular classes. This section is concerned with relationships between the validity of the retardation diagnosis and such demographic factors as social class, race, sex, and years in special education.

As the data are essentially categorical in form, chi square is utilized in the analyses which follow. While most of the categories, such as "sex" and "years in special education" are easily understood, a description of several other categories is desirable. Socio-economic groups are based on information presented in Table 1; "low" is comprised of stanine values 1, 2, and 3; "middle" is stanines 4, 5, and 6; and "upper" is stanines 7, 8, and 9. The labels "low," "middle," and "upper" refer to rank order in our data and do not necessarily conform to generally accepted interpretations. For example, the characteristics of our "upper" group correspond loosely to what would be designated as "middle" class in classification systems using national, representational samples. The categories titled "Mostly Homebite," "Racially Integrated," and "All White" are the same as those described in Estimation of Neighborhood Social Composition (p. 9).

TABLE 8

MEANS AND STANDARD DEVIATIONS
FOR THE TOTAL SAMPLE

(N=697)

	Mean	S.D.
SQ	06.04	11.94
AB	11.28	0.89
VO	12.01	6.04
SOC	10.07	9.77
E	17.04	10.27

FIGURE 6 PERCENTAGE OF PUPILS IN RETARDED AND REGULAR CLASSES WHO PASS (T SCORE 45) CRITERION MEASURES

TABLE 9

NUMBER AND PERCENTAGE OF PUPILS IN
ONE AND REGULAR CLASSES WHO
SATISFY MULTIPLE CRITERIA

Number of Criteria Passed	Regular Placement No.	Regular Placement (%)	Extended Placement No.	Extended Placement (%)	Total
5	103	(94)	31	(06)	234
4	87	(87)	63	(17)	150
3	85	(100)	84	(52)	169
2	13	(94)	80	(21)	93
1	1	(01)	79	(21)	80
0	0	(00)	28	(100)	28
Total	319	(100)	370	(99)	697

The categories which relate to the adequacy of EMR school placements are the most critical and are categorized as follows:

1. Erroneously Identified. Pupils who achieve satisfactorily, i.e., T-scores 45 or above on four or five of the five criterion measures.
2. Questionable Identification. Pupils who achieve satisfactorily on two or three of the criterion measures.
3. Correctly Identified. Pupils who achieve satisfactorily on one or none of the five criterion measures.

Diagnostic Validity and Socioeconomic Level

The contingency table depicting observed and expected frequencies for three socioeconomic levels and three identification categories is presented as Table 10. The resultant chi square (28.3) is significant at beyond the .01 level of confidence. Socioeconomic level, as defined, is related to adequacy of the EMR identification.

* * * * * * * * * * *

Insert Table 10

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Inspection of the table suggests that the Correctly Identified-Low Socioeconomic Level and the Erroneously Identified-Low Socioeconomic Level cells made a major contribution to the total chi square. This finding is interpreted to mean that in this city-suburban sample of retardates, pupils from lower class backgrounds are more often correctly recognized and less often misdiagnosed than retardates from higher socioeconomic levels.

If one accepts the multiple criteria premise as outlined in this study, then only pupils in the Correctly Identified category can be viewed with certainty as mentally retarded. The diagnosis of mental retardation which is applied to children in the Questionable and Erroneous categories must be viewed suspiciously. One may conclude, therefore, that 60 percent of the "lower" socioeconomic group and only 26 and 23 percent of the other two groups are correctly recognized.

Diagnostic Validity and Race

Because of the strong correlation between neighborhood racial composition and socioeconomic level (r=.60 in these data), the results of this analysis resemble the preceding for socioeconomic level. In our sample, all of the pupils designated as "low" socioeconomically were nonwhite and all pupils designated as "upper" were white. This association of poor and black is common in today's cities and is especially the case with the Philadelphia area. It is therefore difficult to interpret racial factors separate from socioeconomic factors.

The contingency table displaying the three categories based upon percentage of neighborhood residents who are nonwhite and the three types of identifications is offered in Table 11. The chi square is highly significant.

Pupils from predominately nonwhite neighborhoods tended to be relatively fewer from erroneous and questionable identifications and more likely to be correctly identified than pupils from predominantly white areas. There also exists a discernible trend toward fewer correct and more questionable identifications in totally white areas. While 65 percent of "retarded" pupils in mostly black areas are correctly identified as retarded, 26 percent of pupils from integrated areas and only 22 percent of pupils from all white areas are correctly diagnosed as retarded. These percentages bear striking similarity to those reported in the sociocommunity analysis and demonstrate the close relationship of the two factors in this metropolitan area.

* * * * * * * * *
Insert Table 11
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Diagnostic Validity and Sex

The relationship of sex to identification (Table 12) was found to be statistically significant at the .05 level of confidence. From inspection of the matrix, it is apparent that boys and girls do not differ regarding erroneous identifications. However, while boys have fewer correct identifications and more questionable identifications than expected, the opposite is true for girls. Twenty-six percent of the male "retardates" were found to satisfy the multiple criteria and to have their diagnosis verified; the figure was 40 percent for the female "retardates."

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Insert Table 12
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Characteristics of Children with Questionable Regular Class Placement

There were 39 children in regular class placement who failed two or more criteria. As may be seen in Table 13, lower socioeconomic status Negro females are disproportionately represented in this group. This finding is consistent with those previously reported in the discussion concerning diagnostic validity and sex.

* * * * * * * * * *
Insert Table 13
* * * * * * * * * *

TABLE 10

CONTINGENCY TABLE FOR
RELATIONSHIP BETWEEN ADEQUACY OF
IDENTIFICATION AND SOCIOECONOMIC LEVELS

		Socioeconomic Levels			
		Low	Middle	Upper	Total
IDENTIFICATION	Erroneous	5 (13.9)	65 (56.0)	22 (22.1)	92
	Questionable	18 (25.3)	102 (102.2)	48 (40.4)	168
	Correct	34 (17.8)	63 (71.8)	21 (28.4)	118
	Total	57	230	91	378

$x^2 = 28.263$, $df = 4$, $p < .01$

TABLE 11

CONTINGENCY TABLE FOR RELATIONSHIP
BETWEEN ADEQUACY OF IDENTIFICATION
AND RACIAL COMPOSITION OF NEIGHBORHOOD

		Racial Composition			
		Mostly Nonwhite	Integrated	All White	Total
IDENTIFICATION	Erroneous	12 (10.8)	36 (30.6)	44 (43.6)	92
	Questionable	15 (20.9)	37 (33.6)	96 (79.6)	148
	Correct	47 (23.1)	32 (29.8)	39 (33.9)	118
	Total	74	125	179	378

$x^2 = 49.277$, $df = 4$, $p < .01$

TABLE 13

CONTINGENCY TABLE FOR RELATIONSHIP
BETWEEN ADEQUACY OF IDENTIFICATION AND SEX

		Sex		
		Male	Female	Total
IDENTIFICATION	Erroneous	60 (39.1)	32 (38.9)	92
	Questionable	119 (100.0)	49 (60.8)	168
	Correct	64 (75.9)	54 (62.1)	118
	Total	243	135	378

$x^2 = 7.66$, $df = 2$, $p < .05 > .01$

TABLE 13

CHARACTERISTICS OF SUBJECTS IN REGULAR CLASSES WHOSE PLACEMENT MAY BE QUESTIONED (N=79) COMPARED TO THOSE APPROPRIATELY PLACED (N=280)

		Questioned		Regular	
		N	%	N	%
Sex	Male	58	66	166	59
	Female	21	34	114	41
Social	Low	33	38	33	12
	Middle	34	62	211	75
	High	0	0	36	13
Area	White	30	36	164	31
	Mixed	30	36	95	34
	Negro	19	48	41	15

Diagnostic Validity and Years in Special Education

This analysis deals with a frequently asked question in special education. Are children recently placed into special classes more likely to be misdiagnosed than children who have been in such classes for several years? Apparently, at least in our sample, no differences between erroneous, questionable, or correct identification and years in special education were found. The chi square for this analysis (Table 14) was not significant. There is a tendency for the percentage of correct classifications to increase with years in special education, but the trend is not strong enough to warrant further mention.

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Insert Table 14

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Teacher Characteristics

Teachers were asked to complete a brief information sheet covering their academic preparation, years of experience (not necessarily in Special Education), age and years in the district. These data are shown in Table 15. Aside from the fact that teachers are more willing to tell how long they have been working in their districts than they are to give their ages, the results do not suggest any unusual bias between EMR and regular classes.

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Insert Table 15

* * * * * * * * * * *

DISCUSSION

The purpose of this study was to investigate the validity of special class placements using multiple criteria by comparing children enrolled in EMR classes with their age mates in regular classes. Bluntly put, the question asked was, "How many children in classes for the educable mentally retarded are educable mentally retarded?" We also hoped to study the relationship between class placement and selected demographic variables.

Before one agrees with us that as many as 60 percent of the children in EMR classes may be misplaced, problems concerning the nature of the sample and the socioeconomic and racial indices need to be made clear. First, the data were collected from a specific metropolitan center, Philadelphia, in a particular geographical area. Generalization of these findings to areas which differ considerably in population characteristics and placement policies is not warranted. However, it seems likely that most major metropolitan areas across the country are similar in many ways and share the problems represented in these data to one extent or another.

Second, in our data Bucks County, a suburban area, is somewhat over-represented while Philadelphia County, the city proper, is under-represented. As our purpose has not involved a comparison of urban-suburban placement, this disproportion has not been considered a major short-coming.

Third, and more troublesome, is the fact that the estimations of the socioeconomic and racial composition of the school neighborhoods are admittedly gross and based on a census report already two years old. We are quite certain that some of our ratings of neighborhoods no longer represent accurately the present situation. To the extent that neighborhoods are misidentified the possibility of relating placement to the socioeconomic and racial indices is reduced. However, it is very unlikely that many communities have changed in socioeconomic-racial characteristics so radically during the decade that a shift from one of our gross categories to another would be required.

The rationale for the selection of the criterion measures has already been discussed (pp. 5 ff.). That the abilities represented in these measures do in practice bear a functional relationship to classroom placement is indicated by the fact that 88 percent of the pupils in the regular class fall above the cutting score on at least four of the five criteria (see Table 9). Only four percent of children in regular classes fail to pass fewer than three. Children who pass one or none of the criteria are essentially unrepresented in the regular class. Finally as shown in Table 6 statistically significant mean differences between subjects in the regular and the EMR classes were found in favor of the regular class students. Therefore, the selection of these particular five criterion measures is defensible.

TABLE 14

CONTINGENCY TABLE FOR RELATIONSHIP
BETWEEN ADEQUACY OF IDENTIFICATION AND TRADE
IN SPECIAL EDUCATION

		Years in Special Education					
		1	2	3	4	5-6	Total
IDENTIFICATION	Erroneous	21 (10.3)	36 (26.8)	16 (22.4)	13 (13.6)	8 (9.8)	92
	Questionable	38 (33.3)	47 (48.9)	37 (40.9)	31 (28.4)	15 (16.4)	168
	Correct	16 (23.4)	29 (34.3)	39 (28.7)	20 (20.0)	14 (11.6)	118
	Total	75	110	92	64	37	378

$$x^2 = 13.318,\ df = 8,\ p > .05$$

TABLE 11

DISTRIBUTION OF TRAINEES
BY SEX AND REGULAR CLASSES

Program	B.S. or less	B.S.+	M.S. & M.S.+
CMR	31	40	12
Graduates	11	32	13
Experience Forestry	1-2	3-10	11+
CMR	10	30	31
Graduates	10	33	27
Years in Service	1-2	3-10	11+
CMR	34	28	22
Graduates	12	35	23
Age	20-29	30-44	45+
CMR	38	36	23
Graduates	25	26	14

The use of homogeneity of performance across a number of dimensions in the diagnosis of retardation is in keeping with at least two points of view. The first is based on Jastak's (1961) finding that those who were identified as retarded (being in the lowest quartiles of his four criteria) tended to be low in his psychometric measures. Second, before identifying a child as retarded, it would seem appropriate to rule out all other possibilities which a heterogeneous pattern of performance might suggest.

To the extent that one accepts this approach which utilizes multiple criteria to define mental retardation and to identify mental retardates, the conclusions from these data are considerable. The finding that 23 percent of the pupils in EMR classes passed four or five of the criteria for intellectual normalcy is of considerable educational importance. While some of these children scored minimal passes on each criterion and consequently evidenced performance which might be called "dull normal," other children ended up impressive scores on the criteria and could in no way be considered as "retarded" or "dull." We concluded that these pupils were misplaced and had no business in an EMR class. If they had other problems which mitigated against a smooth return to the regular class, e.g. behavioral disorders or extreme educational lags, perhaps alternative arrangements and services should be considered. In any event, the EMR placement was viewed as untenable.

An additional 43 percent of the "EMR" pupils passed, i.e. scored T-scores 43 or greater, two or three of the criteria for normalcy which prompted us to view these placements with suspicion. Granted that as a group these pupils presented a fairly "dull" clinical picture. In fact, most only barely passed a few of the criteria, and their "adequate" performance is more likely to be an example of measurement error than the demonstration of ability. Yet, numerous pupils made unexplainably high marks on several criteria while failing the others. These curiously high scores suggested that on at least two intellectual tasks, and possibly more, the child was capable of successful performance. So these pupils did pass several criteria, we chose to view their placements critically, and expressed concern that so many children are given such radical treatment, i.e. are labeled retarded and segregated from the main stream of education, for what are merely minor deviations or fluctuations in ability.

The remaining 34 percent of pupils enrolled in EMR classes passed only one or none of the criteria for normalcy. These pupils were thought to be the "best" candidates for the educable placement. Their intellectual deviation was so marked that among the 119 children in regular class only one case performed similarly on the criterion measures (and possibly he was waiting placement in an educable class).

A paradoxical finding was related to socioeconomic and/or racial factors. We originally thought that large numbers of poor black children from city areas would misplacedly be placed into EMR classes and that this situation would be made dramatically clear by the

application of multiple criteria. We also believed that children from economically constant subculture areas would be the beneficiaries of careful diagnostic workups and appropriate placements. This was not found to be the case. While a large number of pupils was found to be misidentified, children from lower socioeconomic levels were more often "correctly" placed and less likely to be misplaced than those from higher levels. The findings were similar for race and favored children from predominately nonwhite areas with more "correct" placements and children from all white areas with more "questionable" and fewer "correct" placements than expected (Tables 10 & 11).

Combining these tables with Figures 1-6 prompts us to conclude that the combination of lower IQ and difficulty in reading is lethal. The probability of being placed in EMR classes with only this combination increases as socioeconomic status improves. Due to tempted to say that the child is identified as a reading problem, is found to have a low IQ and is consequently placed in the EMR class. Also there is a greater likelihood among the higher socioeconomic neighborhoods that special class placement is used as a way of endeavoring to obtain individual attention for a child who is not reading than is true in the city. While the motivation is commendable, this mislabeling of the child and misuse of the resources would appear seriously to limit the effectiveness of this procedure. There is reason to believe that placement in the special class in the urban suburbs is likely to occur in instances of children who are less successful in educational achievement and in social adjustment. Where achievement below grade level is the rule, as is the case of predominately black, poor neighborhoods, only the lowest and most disruptive are to be found in the limited number of special classes.

Regarding sex, our findings verify what most workers have long noted, namely that among pupils placed in EMR classes more "questionable" and fewer "correct" placements are found among males, while among the females the reverse is true. Girls are more likely to be retained in regular classes than boys despite a similar lack of achievement. This becomes more obvious when one looks at the characteristics of children in the regular class for whom that placement is "questionable" (Table 13). These children tend to be black girls from lower socioeconomic districts.

While there are differences in both the design and criteria used, the results of this study are quite in keeping with those reported by Jastak. He concluded that "as many as 80 percent of the individuals diagnosed as retarded by a single criterion may be found to be non-retarded if all ... criteria are brought into play (1949, p. 139)." In the model he suggested to account for his findings, lower intelligence and poor reading were held to interact to produce feelings of anxiety and frustration in the school situation in a self-perpetuating vicious circle.

Recognition of this fact has long caused the educator to be uncomfortable with the clinical psychologist's examination. Rich

(1958) called for teachers to do their own examinations and to develop their own assessment techniques ten years before the ITPA was published. Budoff (1967, 1969) and his associates have been investigating learning potential, a differential ability to profit from experience among students whose IQs place them in the EMR range. He argues as did Jastak, that a multifactor criterion involving motivational, social psychometric, cognitive and verbal-linguistic variables may serve as a more adequate basis for determining retardation. Children are defined by Budoff as "high scorers," "gainers," and "non-gainers" on the basis of their reactions to coaching on the Kohs Block Design Test. "High scorer" and "gainer" status has been shown to be associated with lower socioeconomic status and family instability. In a series of studies, "high scorers" and "gainers" have been shown to make significant progress on learning tasks when compared with "non-gainers" of equivalent IQs.

The whole question of assessment of exceptional children has recently been reviewed by Hausman (1969) who concluded that its purpose should be prescriptive rather than diagnostic. This seems particularly important in view of our findings. No one in special education views the EMR class placement as appropriate for underachieving, dull, educationally lagging, emotionally disturbed, or intellectually normal or near normal children. Yet, the findings of this study suggest the presence of a large percentage of these children in today's EMR classes.

One cannot help but ponder the consequences of subjecting these children to the "retarded" curriculum and the socially unrewarding experience which necessarily results when one's schoolmates are "retarded." The stigma of bearing the label "retarded" is bad enough, but to bear the label when your placement is questionable or outright erroneous is an intolerable situation.

The cold fact is that the EMR classroom generally is not remedial in its philosophy or action. Nor is the child often provided the concentrated training in educational fundamentals or basic school subjects that are necessary if he is to be returned to the regular class. The EMR class is usually designed to provide a developmental "slow but sure" program whose goal is job success and social adequacy in adulthood.

The EMR placement should probably be reserved for those children who can profit from it; e.g. those who fail four or five criteria. The others need the opportunities inherent in approaches which in many areas are being utilized. These include resource rooms, tutoring, nongraded classes, or a learning center approach. Such programs tend to de-emphasize labels and focus upon remediating deficiencies or teaching needed skills in order that the child can be integrated into regular school classes at or near his age level.

Once the goal is accepted that each child should be given the opportunity to profit from education, it is incumbent upon the

educator to recognize the fact that all education is special. The "underachiever" needs a prescriptive approach. Specialists in areas other than reading where the needs are so obvious would enable the child who takes up space in the regular classroom in fact to profit and the youngster referred to special class now to remain in the regular program.

SUMMARY

Eleven-year old children in EMR (N = 378) and regular (N = 319) classes from the five-county greater Philadelphia area were compared on the Slosson Intelligence Test for Children and Adults, an adaptation of the Test of Social Inference, an adaptation of the Temple Informal Reading Inventory and the Auditory Reception and Verbal Expression subtests from the 1968 Illinois Test of Psycholinguistic Abilities. The distributions for the total sample were converted into T-scores and the children scoring above and below a T-score of 45 (equivalent in our data to an IQ of 75) on each of the variables were identified. Applying Zastak's concept of multiple criteria leads to the suggestion that the diagnosis in 25 percent of the children in EMR classes may be erroneous in that they score above the cutting point on at least four of the five criteria. Only 31 percent of those in the EMR classes failed either four or five of the five criteria. The combination of a reading problem and a lower IQ is highly associated with EMR placement.

The findings support efforts to maintain most children found in EMR classes in the regular classroom through the use of tutoring and resource rooms.

REFERENCES

Burgan, J., & Smith, J.O. Effects of socioeconomic status and sex on prospective teachers' judgments. Mental Retardation, 1965, 4, 13-15.

Budoff, M. Learning potential as a supplementary strategy to psychometric diagnosis. In J. Hellmuth (Ed.), Learning Disorders, III. Seattle, Washington: Special Child Publications, 1968.

Budoff, M. Learning potential: A supplementary procedure for assessing the ability to reason. Seminars in Psychiatry, 1969, 1, 278-290.

Carroll, A.W. The effects of segregated and partially integrated school programs on self concept and academic achievements of educable mental retardates. Exceptional Children, 1967, 34, 93-99.

Cawley, J.F., Burrow, W.H., & Goodstein, H.A. Learning disabilities: What are we assessing. Unpublished research conducted pursuant with contract with OEO, Project Number OEO4177. Storrs, Conn.: University of Connecticut, 1969.

Christoplos, F., & Renz, P. A critical examination of special education programs. Journal of Special Education, 1969, 3:4, 371-380.

Clarke, A.D.B. Recent English research. American Journal of Mental Deficiency, 1957, 62, 295-299.

Cruickshank, J. Label or libel? What happens when we categorize children? The Instructor, 1967, 76, 71-72.

DeLaga, G. The Slosson Intelligence Test: A screening and retesting technique for slow learners. Journal of School Psychology, 1968, 5, 224-225.

Dunn, L.M. Special education for the mildly retarded - is much of it justifiable? Exceptional Children, 1968, 35, 5-24.

Edmonson, B., Leach, E.M., & Leland, H. Social perception training for community living: Pre-vocational units for retarded youth. Kansas City, Ks.: University of Kansas Medical Center, 1967.

Fuchigami, R.Y., & Shepard, G. Factors affecting the integration of educable mentally retarded students. Mental Retardation, 1968, 6, 18-22.

Goerlich, G.R. Special classes or resource rooms? Mental Retardation, 1967, 5, 40-41.

Guilford, J.P. Fundamental statistics in psychology and education. New York: McGraw-Hill, 1965.

Hamill, D. The Slosson Intelligence Test as a quick estimate of mental ability. Journal of School Psychology, 1969, 7:4, 33-37.

Haywood, H.C. Assessment of the learning potential of exceptional children. IMRID papers and reports, 1969, 6, #3.

Hewlitt, G.M. Effectiveness of special class placement. Paper given at AAMD annual meeting, Denver, Colorado, 1967.

Jastak, J.F., MacPhee, H.M., & Whitman, M. Mental retardation: Its nature and incidence. New York: University Publishers, 1963.

Johnson, A.M. Intellectual segregation. Elementary School Journal, 1967, 67, 207-212.

Kidd, J.W. Some unwarranted assumptions in the education and habilitation of handicapped children. Education and Training of the Mentally Retarded, 1966, 1, 54-59.

Kirk, S.A. Education in diagnosis. Conference on Diagnosis in Mental Retardation. Vineland, New Jersey: The Training School, 1958, 197-206.

Kirk, S.A., McCarthy, J.J., & Kirk, W.D. Examiner's manual: Illinois Test of Psycholinguistic Abilities. Urbana, Illinois: University of Illinois Press, 1968.

Kirk, S.A., & Paraskevopoulos, J. Development and psychometric characteristics of the Revised Illinois Test of Psycholinguistic Abilities. Urbana, Illinois: University of Illinois Press, 1969.

Lemkau, P., Tietze, C., & Cooper, M. Mental hygiene problems in an urban district. Mental Hygiene, 1941, 25, 624.

McCarthy, J.McR. Providing services in the public schools for children with learning disabilities. Selected Papers on Learning Disabilities. International approach to learning disabilities of children and youth. Fifth Annual Conference, Boston, Mass., 1968, 43-54.

Meyers, C.E., & Meyers, C.E. Problems in school placement arising from divergent conceptions of educable children. Mental Retardation, 1967, 5, 19-22.

New York State Department of Mental Hygiene, Mental Health Research Unit. Technical report: A special census of suspected referred mental retardates, Onondaga County, New York. Syracuse, New York, 1955.

O'Connor, N., & Tizard, J. The social problems of mental deficiency. New York: Pergamon Press, 1956.

Poissant, P.A. A product moment correlation between the Stanford-Binet and Slosson Intelligence Test with slow learners. School Psychologist Newsletter, 1967, 12:1.

Schwartz, S.H. Special education or special classes? Digest of the Mentally Retarded, 1967, 4, 34-36.

Slosson, R.L. Slosson Intelligence Test (SIT) for Children and Adults. East Aurora, New York: Slosson Educational Publications, 140 Pine Street, 1963.

Towne, R.C., & Joiner, L.M. Some negative implications of special placement for children with learning disabilities. Journal of Special Education, 1967, 2:1, 217-222.

Valett, R.E. The learning resource center for exceptional children. Exceptional Children, 1970, 36:7, 527-530.